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10/571,063	03/08/2006	Sunao Aoki	1035-628	2452

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EXAMINER	
STEINBERG, JEFFREY S	
ART UNIT	PAPER NUMBER
2629	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/571,063	AOKI ET AL.	
	Examiner	Art Unit	
	JEFFREY STEINBERG	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 October 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-5 and 7-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *3-5 and 7-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 3-5 and 7-18 have been considered but are moot in view of the new ground(s) of rejection.

Response to Amendment

Claim Rejections - 35 USC § 112

2. The Rejections of Claims 5 and 6 under 35 U.S.C. § 112, second paragraph are hereby withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al.(7,113,158) in view of a US Patent to Hirimai (7446733), and further in view of a US Patent Application Publication by Kim et al. (2002/0057411).

Regarding Claim 3 (Currently Amended), Fujiwara discloses a display panel (Col. 4, l. 64) comprising:

a display image generator configured to generate a display image according to inputted display data (Col. 10, ll. 10-11); but fails to disclose a display image separator configured to separate the display image, at one time or in a time division manner, according to a plurality of viewpoints, the display image generating means generator comprising an active matrix type display panel, aperture sections in each pixel pattern of the display panel having a width set so as not to fall within a range specified by the following inequality: 2 μm (minimum width of the aperture sections in the pixel) 7 μm.

Hirimai teaches a separator using a "time division basis" (Fig. 49; Col. 40, ll. 62-64).

Kim et al. teaches an improvement of the aperture ratio. (Pg. 2, ¶[0019]).

Fujiwara, Hirimai and Kim et al. are analogous because they are all concerned with the same endeavor, Display Apparatus. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Display Device disclosed by Fujiwara with the teachings of Hirimai and Kim et al. since such a modification would have added quality to the performance of the display device.

Regarding Claim 4, the Fujiwara-Hirimai-Kim et al. Combination discloses the display panel according to claim 3, and Kim further discloses wherein the width of the aperture sections in the pixel pattern of the active matrix type display panel is set so as not to fall within a range specified by the following inequalities: 2 um <(minimum width of the aperture sections in the pixel) <8 um, and 10 um (minimum width of the aperture sections in the pixel) < 16 um. (Abstract and Pg. 2, ¶[0019)]).

6. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al.(7,113,158) in view of a US Patent to Hirimai (7446733), and further in view of a US Patent Application Publication by Maeda (2007/0152934).

Regarding Claim 5 (Currently Amended), Fujiwara, discloses a display panel comprising: a display image generator (Col. 10, ll. 10-11) configured to generate a display image according to inputted display data; the display image generator being an active matrix type display panel (Col. 10., ll. 10-11) but fails to disclose a display image separator configured to separate the display image, at one time or in a time division manner, according to a plurality of viewpoints, the display image generator being an active matrix type display panel comprising a light shielding film provided to avoid light entering aperture sections, in each pixel pattern of the display panel, having a gap.

Hirimai teaches a separator using a "time division basis" (Fig. 49; Col. 40, ll. 62-64) as well as the principle of "image width modulation." (Fig. 44, Col. 10, ll. 22-23).

Maeda teaches a light shielding film(Pp. 7-8, ¶[0252]) being provided to avoid that the light enters aperture sections, in each pixel pattern of the display panel, having an improved aperture ratio (Maeda, Pg. 12, ¶[0307)], where "the pixel aperture ratio becomes **considerably** low.")(Emphasis supplied)(Id.).

Fujiwara, Hirimai and Maeda are analogous because they are all concerned with the same endeavor, Display Panels. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Display Device disclosed by Fujiwara with the teachings of Hirimai and Maeda, since such a modification would have added both a time division separator and a light shielding field.

Regarding Claim 7, the Fujiwara-Hirimai Combination discloses the display panel according to claim 5, but fails to disclose wherein the width of the aperture sections shielded by the light-shielding film is set to satisfy the following inequality: 2 um (minimum width of the aperture sections in the pixel) <7 um. **A** US Patent Application Publication by Maeda, teaches an improvement of the aperture ratio. (Abstract and Pg. 2, ¶[0019)]).

7. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al.(7,113,158) in view of a US Patent to Hirimai (7,446,733), and further in view of a US Patent

Application Publication by Kim et al. (2002/0057411), and further in view of a US Patent Application Publication by Maeda (2007/0152934).

Regarding Claim 8 (Currently Amended), the Fujiwara-Hirimai-Kim Combination discloses the display panel according to claim 3, but fails to disclose wherein the active matrix type display panel includes: an auxiliary capacitor in the pixel; and auxiliary capacity wiring constituting the auxiliary capacitor, the auxiliary capacity wiring having a narrower line width at an intersection with a source line than a line width in a pixel pattern.

Maeda teaches wherein the active matrix type display panel includes: an auxiliary capacitor (Maeda, Fig. 2, Pg. 14, ¶[0328]) in the pixel; and auxiliary capacity wiring constituting the auxiliary capacitor, the auxiliary capacity wiring having a narrower line width at an intersection with a source line than a line width in a pixel pattern. (Note: Since the auxiliary capacity wiring constitutes the capacitor it is obvious that the width of the line will be narrower at the intersection of a source line than a line width in a pixel pattern to insure the strength of the 'auxiliary' capacitance).

Fujiwara, Hirimai, Kim et al. and Maeda are analogous because they are all concerned with the same endeavor, Display Apparatus. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Display Device disclosed by Fujiwara with the teachings of Hirimai, Kim et al. and Maeda since such a modification would have added an auxiliary capacitance to the display device.

Regarding Claim 9, the Fujiwara-Hirimai-Kim et al.-Maeda Combination discloses the claimed invention, and further discloses the active matrix type display panel is a TFT (thin film transistor) driven type display panel. (Maeda, Pg. 11, ¶[0293]).

Regarding Claim 10, the Fujiwara-Hirimai-Kim et al.-Maeda Combination discloses the claimed invention, and further discloses the display panel. (Fujiwara, Col. 4, l. 64).

8. Claims 11-12 are rejected under 35 U.S.C. Sec. 103(a) as being unpatentable over Fujiwara et al.(7,113,158) in view of a US Patent Application Publication by Kim et al. (2002/0057411), and further in view of a US Patent to Yamazaki et al. (7,098,069).

Regarding Claims 11-12 (New), Fujiwara discloses a display panel (Col. 4, l. 64) comprising: a display image generator configured to generate a display image according to inputted display data, the display image generator comprising an active matrix type display panel (Col. 10., ll. 10-11). Fujiwara fails to disclose the active matrix type display panel comprising: signal lines; auxiliary capacitors; and aperture sections provided between the signal lines and the auxiliary capacitors; and a display image separator configured to separate the display image according to a plurality of viewpoints; and wherein a parameter of the aperture sections is chosen to maintain, below a predetermined crosstalk value, any crosstalk caused by diffraction of light which has passed through the display image separator and into the aperture sections.

Kim et al. teaches an improvement of the aperture ratio. (Pg. 2, ¶[0019]).

Yamazaki teaches an auxiliary electrode which necessarily requires extra wiring (Fig. 11A: 23, Col. 24, ll. 19-21).

Fujiwara, Kim and Yamazaki are analogous because they are all concerned with the same endeavor, Display Apparatus. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Display Device disclosed by Fujiwara with the teachings of Kim and Yamazaki since such a modification would have added quality to the performance of the display device.

9. Claim 13 is rejected under 35 U.S.C. Sec. 103(a) as being unpatentable over Fujiwara et al.(7,113,158) in view of a US Patent Application Publication by Kim (2002/0057411), in view of a US Patent to Yamazaki et al. (5,600,461), and further in view of a US Patent to Ueda et al. (5,600,461).

Regarding Claim 13 (New), the Fujiwara-Kim-Yamazaki Combination discloses the display panel of claim 11, but fails to disclose wherein the width is chosen not to be in a range of more than 2 micrometers and less than 7 micrometers.

Ueda teaches that there can be no gap between the capacitor and signal/source line (Fig. 34(a)).

The Fujiwara-Kim-Yamazaki Combination and Ueda are analogous because they are all concerned with the same endeavor, Display Apparatus. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Display Device

disclosed by the Fujiwara-Kim-Hiramai-Yamazaki Combination and Ueda since such a modification would have added quality to the performance of the display device.

10. Claim 14 is rejected under 35 U.S.C. Sec. 103(a) as being unpatentable over Fujiwara et al.(7,113,158) in view of a US Patent Application Publication by Kim (2002/0057411), in view of a US Patent to Yamazaki et al. (5,600,461), and further in view of a US Patent to Murukami et al. (6,040,814).

Regarding Claim 14 (New), Fujiwara-Kim-Yamazaki Combination discloses the display panel of claim 11, but fails to disclose wherein the predetermined crosstalk value is 5.6.

Murukami et al. teaches prevention of crosstalk. (Col. 10, ll. 16-21).(The Examiner takes Official Notice that prevention of crosstalk, being desired, is an improvement over a crosstalk value of 5.6).

The Fujiwara-Kim-Yamazaki Combination and Murukami are analogous because they are all concerned with the same endeavor, Display Apparatus. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Display Device disclosed by the Fujiwara-Kim-Yamazaki Combination and Murukami since such a modification would have added quality to the performance of the display device.

11. Claims 15-18 are rejected under 35 U.S.C. Sec. 103(a) as being unpatentable over Fujiwara et al.(7,113,158) in view of a US Patent Application Publication by Maeda

(2007/0152934), in view of a US Patent to Sonehara (7,233,441), in view of a US Patent to Murukami et al. (6,040,814), and further in view of a US Patent to Yamazaki et al. (5,600,461).

Regarding Claim 15 (New), Fujiwara et al. discloses a display panel comprising: a display image generator (Col. 2, ll. 11-15) configured to generate a display image according to inputted display data, the display image generator comprising an active matrix type display panel (Col. 10., ll. 10-11), the active matrix type display panel comprising: signal lines. Fujiwara fails to disclose auxiliary capacitors; and auxiliary capacity lines extending essentially orthogonally to the signal lines and connecting to the auxiliary capacitors; aperture sections provided between the signal lines, the auxiliary capacity lines, and the auxiliary capacitors; and a display image separator configured to separate the display image according to a plurality of viewpoints; and wherein a parameter of the auxiliary capacity lines is chosen to control negative capacitance and thereby to maintain, below a predetermined crosstalk value, any crosstalk caused by diffraction of light which has passed through the display image separator and into the aperture sections.

Maeda teaches auxiliary capacitors. (Fig. 2, Pg. 14, ¶[0328]).

Sonehara teaches a multi-viewpoint-light-beam-group generating device. (Col. 1, ll. 45-51).

Murukami et al. teaches prevention of crosstalk. (Col. 10, ll. 16-21).

Yamazaki teaches an auxiliary electrode which necessarily requires extra wiring (Fig. 11A: 23, Col. 24, ll. 19-21).

Fujiwara, Maeda, Sonehara and Murukami and Yamazaki are analogous because they are all concerned with the same endeavor, Display Apparatus. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Display Device disclosed by Fujiwara with the teachings of Maeda, Sonehara and Murukami since such a modification would have prevented crosstalk in the display device.

Regarding Claim 16 (New), the Fujiwara-Maeda-Sonehara-Murukami-Yamazaki Combination discloses the display panel of claim 15, and Maeda further discloses wherein the parameter is width of the auxiliary capacity lines at an intersection of the auxiliary capacity lines and the signal lines. (Fig. 2, Pg. 14, ¶[0328]). Also, Yamazaki teaches an auxiliary electrode which necessarily requires extra wiring (Fig. 11A: 23, Col. 24, ll. 19-21).

Regarding Claim 17 (New), the Fujiwara-Maeda-Sonehara-Murukami-Yamazaki Combination discloses the display of claim 15, and Maeda further discloses wherein the parameter is area of the auxiliary capacity lines at an intersection of the auxiliary capacity lines and the signal lines. (Pg. 19, ¶¶[0386-0387]). Also, Yamazaki teaches an auxiliary electrode which necessarily requires extra wiring (Fig. 11A: 23, Col. 24, ll. 19-21).

Regarding Claim 18 (New), Fujiwara discloses a display panel comprising: a display image generator (Col. 2, ll. 11-15) configured to generate a display image according to inputted display data, the display image generator comprising an active matrix type display panel (Fig. 4, Col. 6, ll. 13-15), but fails to disclose the active matrix type display panel comprising: signal lines;

auxiliary capacitors; and aperture sections provided between the signal lines and the auxiliary capacitors; and a display image separator configured to separate the display image according to a plurality of viewpoints; and a shield configured to block potential crosstalk-causing diffraction rays which have passed through the display image separator and into the aperture sections.

Maeda teaches auxiliary capacitors. (Fig. 2, Pg. 14, ¶[0328]) in addition to an improvement of the aperture ratio through the use of a low temperature polycrystalline Si-transistor (Pg. 12, ¶[0307]).

Sonehara teaches a multi-viewpoint-light-beam-group generating device. (Col. 1, ll. 45-51).

Yamazaki teaches an auxiliary electrode which necessarily requires extra wiring (Fig. 11A: 23, Col. 24, ll. 19-21).

Murukami et al. teaches prevention of crosstalk. (Col. 10, ll. 16-21).

Fujiwara, Maeda, Sonehara, Yamazaki and Murukami are analogous because they are all concerned with the same endeavor, Display Apparatus. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Display Device disclosed by Fujiwara with the teachings of Maeda, Sonehara and Murukami since such a modification would have prevented crosstalk in the display device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY STEINBERG whose telephone number is (571)270-7617. The examiner can normally be reached on M-TH 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571 272 7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JEFFREY STEINBERG/
Examiner, Art Unit 2629

/Amare Mengistu/
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